South Australian Perinatal Practice Guideline

Bladder Management for Intrapartum and Postnatal Women

Note:

This guideline provides advice of a general nature. This statewide guideline has been prepared to promote and facilitate standardisation and consistency of practice, using a multidisciplinary approach. The guideline is based on a review of published evidence and expert opinion.

Information in this statewide guideline is current at the time of publication.

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Health practitioners in the South Australian public health sector are expected to review specific details of each patient and professionally assess the applicability of the relevant guideline to that clinical situation.

If for good clinical reasons, a decision is made to depart from the guideline, the responsible clinician must document in the patient's medical record, the decision made, by whom, and detailed reasons for the departure from the guideline.

This statewide guideline does not address all the elements of clinical practice and assumes that the individual clinicians are responsible for discussing care with consumers in an environment that is culturally appropriate and which enables respectful confidential discussion. This includes:

- The use of interpreter services where necessary,
- Advising consumers of their choice and ensuring informed consent is obtained,
- Providing care within scope of practice, meeting all legislative requirements and maintaining standards of professional conduct, and
- Documenting all care in accordance with mandatory and local requirements

Explanation of the aboriginal artwork:
The aboriginal artwork used symbolises the connection to country and the circle shape shows the strong relationships amongst families and the aboriginal culture. The horse shoe shape design shown in front of the generic statement symbolises a woman and those enclosing a smaller horse shoe shape depicts a pregnant women. The smaller horse shoe shape in this instance represents the unborn child. The artwork shown before the specific statements within the document symbolises a footprint and demonstrates the need to move forward together in unison.

Australian Aboriginal Culture is the oldest living culture in the world yet Aboriginal people continue to experience the poorest health outcomes when compared to non-Aboriginal Australians. In South Australia, Aboriginal women are 2-5 times more likely to die in childbirth and their babies are 2-3 times more likely to be of low birth weight. The accumulative effects of stress, low socio economic status, exposure to violence, historical trauma, culturally unsafe and discriminatory health services and health systems are all major contributors to the disparities in Aboriginal maternal and birthing outcomes. Despite these unacceptable statistics the birth of an Aboriginal baby is a celebration of life and an important cultural event bringing family together in celebration, obligation and responsibility. The diversity between Aboriginal cultures, language and practices differ greatly and so it is imperative that perinatal services prepare to respectively manage Aboriginal protocol and provide a culturally positive health care experience for Aboriginal people to ensure the best maternal, neonatal and child health outcomes.

Purpose and Scope of PPG

This guideline aims to provide clinicians with a stepwise approach for the assessment and management of bladder function during the intrapartum and postnatal periods.

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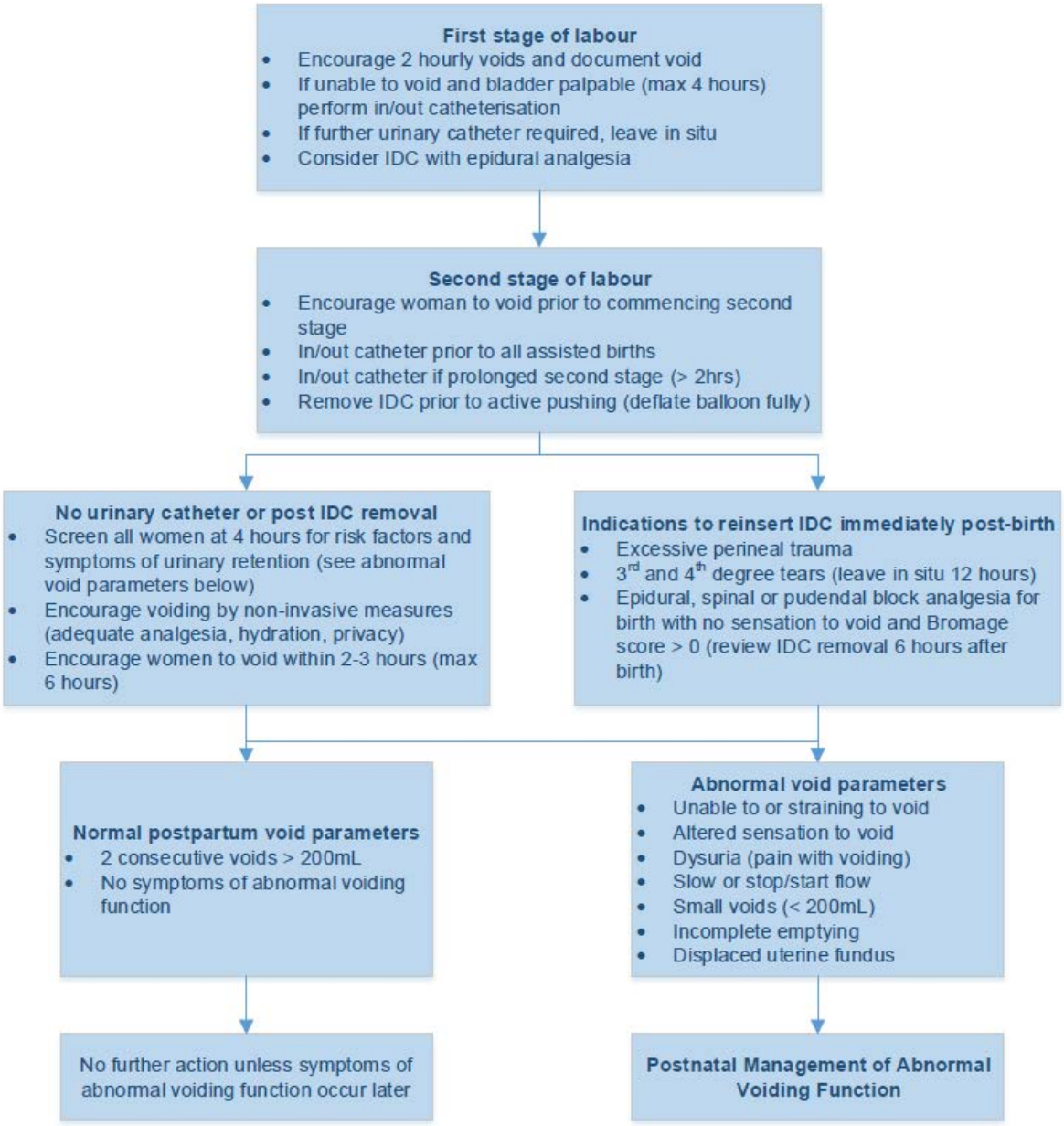
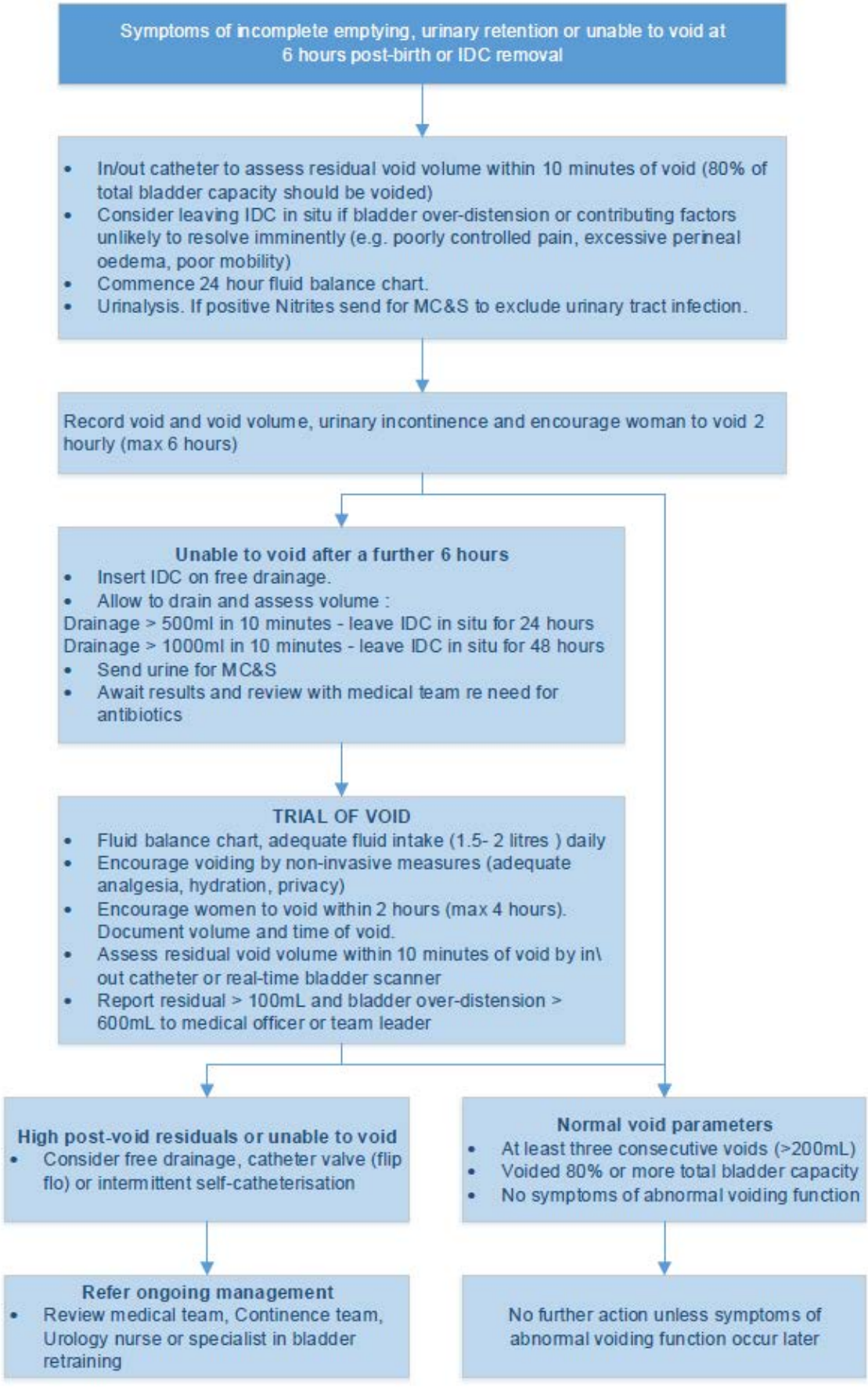
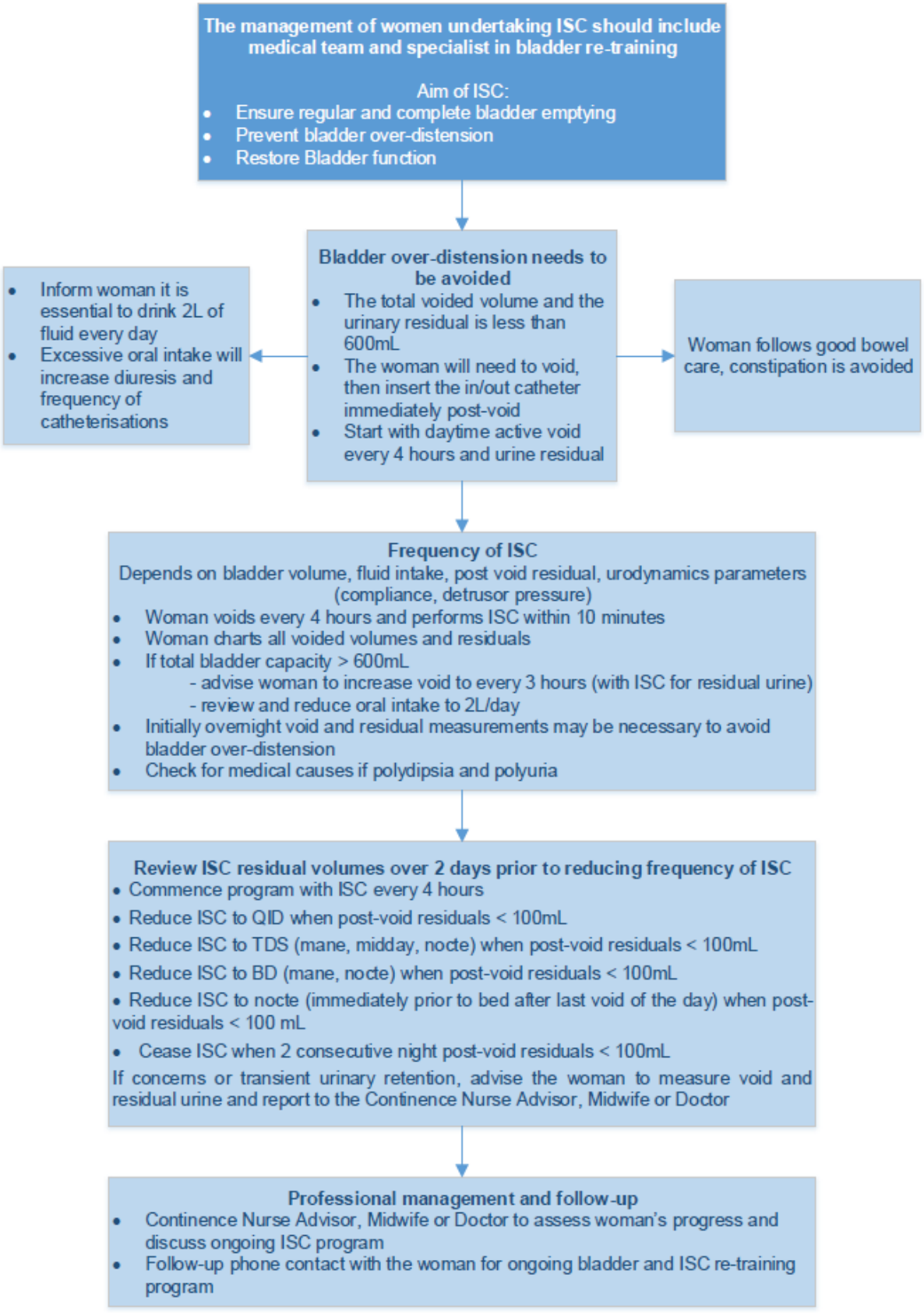
Flowchart I: Bladder Management for Intrapartum and Postnatal Women



Flowchart II: Postnatal management of abnormal voiding function



Flowchart III: Intermittent Self-Catheterisation Algorithm



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Summary of Practice Recommendations

Women require assessment of normal voiding function in the intrapartum and postnatal period.

Clinicians need to assess physiological, neurological and mechanical causes which increase the risk of urinary retention.

Abnormal void parameters require assessment of residual void volume by in/out urinary catheter or real time bladder scanner.

Women who continue to have high post void residuals or retention should be reviewed by the medical team and offered a choice between urinary catheter or intermittent self-catheterisation.

Abbreviations

IDC	Indwelling urinary catheter
ISC	Intermittent self-catheterisation
PPUR	Persistent postpartum urinary retention
mL	Millilitre(s)
kg	Kilogram(s)
>	Greater than
UTI	Urinary Tract Infection
MC&S	Microscopy, culture and sensitivity
L	Litre(s)
<	Less than
e.g.	For example
%	Percentage

Definitions

Covert Retention	Increased post void residual volumes>150ml and no symptoms of urine retention
Overt Retention	Inability to void within 6 hours of birth or removal of urinary catheter.
Persistent postpartum retention	Inability to void despite 3 days of urinary catheterisation
Total bladder capacity	Total amount of urine voided and residual volume post in/out catheter
Urinary retention	Inability to void, with a painful or perusable bladder, requiring urinary catheterisation.

Background

The early identification of voiding dysfunction in the intrapartum and postnatal period reduces the risk of bladder over distention, persistent urinary retention and irreversible damage to the bladder, recurrent urinary tract infections and permanent voiding difficulties.

Normal voiding function

Normal voiding function includes micturition up to 8 times in 24 hour period. However, in the first 24 – 48 hours following birth, diuresis is increased. Women average 300- 400mL with each void with 80% of total bladder capacity passed.

Normal postpartum void parameters:

- Two consecutive voids > 200mL
- No symptoms of abnormal voiding function (see below)

Abnormal voiding function

Void dysfunction, in particular postpartum urinary retention occurs in 10-15% of women. Abnormal voiding function symptoms include:

- decreased or absent sensation to void
- unable to or straining to void
- slow or stop-start urine flow
- frequency and urgency
- small void volumes (< 200mL)
- feeling of incomplete emptying
- displaced uterus
- pain with voiding (dysuria)

Risk Factors for Postpartum Voiding Dysfunction

Clinicians need to assess for physiological, neurological or mechanical factors which increase the risk of urinary retention. Detailed assessment of a woman's voiding function is required.

- Prior history of void dysfunction
- First vaginal birth
- Epidural, spinal or pudendal block in labour
- Assisted vaginal delivery or shoulder dystocia
- Prolonged length of active first stage (> 11hours) or second stage active pushing (> 2hours)
- Excessive perineal trauma: obstetric anal sphincter injury, large episiotomy, para-urethral tear, clitoral tear, significant oedema, haematoma
- Birth weight > 3.8kg
- Urinary catheterisation in labour
- Change in void parameters post-birth (see Abnormal voiding function symptoms above)

Management

Women require assessment of normal voiding function in the intrapartum and postnatal period. See Flowchart I.

Intrapartum management

Women should be encouraged to actively void two hourly in labour. Document voids.

A large proportion of women with epidural, spinal or pudendal blocks will have some negative impact on bladder function in the intrapartum and postpartum period. Women unable to actively void 2 hourly or with a palpable bladder require in/out catheterisation or IDC insertion.

All urinary catheters should be deflated and removed prior to active pushing in second stage.

Postnatal bladder management

Initial postnatal assessment

All women should be actively encouraged to void 2 hourly following birth or catheter removal.

Postpartum void review assesses the normal void function of women following birth or removal of urinary catheter.

Document 1st and 2nd voids; assess and review voiding parameters. Report alteration in sensation to void, difficulty with initiating void, altered flow, incomplete emptying, urgency, small void volume and frequency of void. Assess for displaced uterine fundus.

If normal postpartum void parameters are met, no further action is required unless symptoms of abnormal voiding function occur later.

If a woman has not voided at 4 hours from last recorded void or urinary catheter removal, commence non-invasive measures for a further 2 hours:

- Adequate analgesia
- Hydration
- Privacy

Note: If a woman demonstrates signs of acute urinary retention at 4 hours from last recorded void, waiting a further 2 hours prior to intervening is not required.

Additional considerations

Women with dense epidural, spinal or pudendal blocks may require urinary catheterisation up to 6 hours post birth. Women should be assessed for adequate mobility (Bromage score = 0), and normal sensation to void prior to urinary catheter removal.

Obstetric anal sphincter injuries require urinary catheter to remain in situ for 12 hours (see 'Third and fourth degree tear management' guideline in A to Z index at www.sahealth.sa.gov.au/perinatal).

Abnormal voiding function (see Flowchart II)

If a woman is unable to void or has symptoms of abnormal voiding at 6 hours post-birth or IDC removal (or demonstrates signs of acute urinary retention at 4 hours from last recorded void), assessment of post-void residual volume is required within 10 minutes of void using in/out catheterisation or real-time bladder scanner. (The standard bladder scanner may report on echogenic uterine debris when measuring urinary residuals and whilst less invasive, is not as reliable as in/out catheterisation as a measurement tool.)

Consider leaving urinary catheter in situ if bladder overdistension or other contributing factors are unlikely to resolve imminently (e.g. poorly controlled pain, excessive perineal oedema, poor mobility).

Commence fluid balance chart.

Perform urinalysis to exclude nitrites. If nitrite positive, send urine for MC&S. Await results and review with medical team re need for antibiotics.

Ongoing abnormal voiding function (see Flowchart II)

Indwelling Catheter

If woman is still unable to void after a further 6 hours (i.e. 12 hours post-birth or original IDC removal and 6 hours following in/out catheter), insert an IDC on free drainage. Assess and document urine volume for the first 10 minutes following insertion.

Bladder drainage will guide timeframe for catheter management and trial of void:

- Drainage > 500ml in 10 minutes - leave IDC in situ for 24 hours
- Drainage > 1000ml in 10 minutes - leave IDC in situ for 48 hours

Send urine for MC&S. Await results and review with medical team re need for antibiotics. Plan subsequent trial of void with medical team.

Trial of void following IDC removal

Report residuals > 600mL and/or bladder over-distension to medical officer or team leader

Continue fluid balance chart.

Ensure adequate fluid intake (1.5-2L daily).

Encourage voiding by non-invasive methods (analgesia, hydration, privacy).

Encourage woman to void within 2 hours post-IDC removal (maximum 4 hours)

Measure the residual volume of urine in the bladder within 10 minutes of voiding with an in/out urinary catheter or real time bladder scanner. Two to three consecutive voids with normal void parameters are required. If after the first 2 voids, residual urine volumes are low, it is reasonable to consider measuring the 3rd void volume without assessment of residual volume. This decision should be made in consultation with a medical officer or continence specialist.

If normal post-partum void parameters are met, no further action is required unless symptoms of abnormal voiding function occur later.

Persistent Postpartum Urinary Retention (see Flowchart II)

Women with the following trial of void parameters need to be reviewed by the medical team and offered a choice between indwelling urinary catheter (e.g. catheter valve) or intermittent self-catheterisation.

- High post-void residuals (> 100mL)
- Bladder overdistension (total volume > 600mL)
- Urinary retention

Women should then be referred to a specialist in bladder retraining for ongoing management (e.g. Continence team, Urology Nurse, Stomal Therapist, Physiotherapist).

Intermittent self- catheterisation (ISC) (see Flowchart III)

Management of a woman undertaking ISC should include the medical team and a specialist in bladder retraining.

Obtain the woman's consent and educate her in ISC.

Inform woman it is essential to drink 2L of fluid every day. Excessive oral intake will increase diuresis and frequency of catheterisations.

Women should actively void every 4 hours and perform ISC immediately after voiding (> 10 minutes is measuring renal perfusion and not urine residual). Chart both voided volume and residual urine measured by ISC.

Avoid bladder over-distension (total void and residual volumes should be < 600 mL). Overnight void and residual measurements may be necessary to avoid bladder over-distension initially. If total bladder capacity > 600mL, advise woman to void every 3 hours (with ISC for residual urine), and ensure oral intake is only 2L/day.

Frequency of catheterisation depends on bladder volume, fluid intake, post-void residual, urodynamic parameters (compliance, detrusor pressure). Frequency of catheterisation is decreased when void residuals are less than 100mL for 2 days at each level:

- Commence program with ISC every 4 hours
- Reduce ISC to QID when post-void residuals < 100mL
- Reduce ISC to TDS (mane, midday, nocte) when post-void residuals < 100mL
- Reduce ISC to BD (mane, nocte) when post-void residuals < 100mL
- Reduce ISC to nocte (immediately prior to bed after last void of the day) when post-void residuals < 100 mL
- Cease ISC when 2 consecutive night post-void residuals < 100mL

Check for medical causes if polydipsia and polyuria.

Send urine for MC&S if suspicion of urinary tract infection.

Ongoing bladder and ISC retraining program follow-up is required.

References

1. Yip,Sk, Hin, Ly, Chung, TKH (1998) Effect of the duration of labour on postpartum period post void residual bladder volume. Gynecol Obstett Invest 45; pp177-180 (Level iv)
2. Lee, Sn, Lee, CP, Tang, OS, Wong, WM (1999) brief communication on poastpartum urinary retention, Int J Gynecology Obstet 66 pp 287-288 (Leve; 1v)

3. Rizvi RM, Khan ZS, Khan Z. Diagnosis and management of postpartum urinary retention. International Journal of Gynecology and Obstetrics 2005; 91: 71-2 (Consensus)

4. Groutz A, Gordon D, Wolman I, Jaffa A, Kupferminc MJ, Lessing JB. Persistent postpartum urinary retention in contemporary obstetric practice. Definition, prevalence and clinical implications. J Reprod Med 2001; 46: 44-48 (Level III-2)

5. Carley ME, Carley JM, Vasdev G, Lesnick TG, Webb MJ, Ramin KD et al. Factors that are associated with clinically overt postpartum urinary retention after vaginal delivery. Am J Obstet Gynecol 2002; 187: 430-433 (Level III-2)

6. Groutz A, Hadi E, Wolf Y, Maslovitz S, Gold R, Lessing JB, Gordon D. Early postpartum voiding dysfunction: incidence and correlation with obstetric parameters. J Reprod Med 2004:49:960-964

7. Doughty D. Urinary and faecal incontinence. Nursing Management. 2nd ed. St Louis (Missouri): Mosby Inc; 2000.

8. Jeffery TJ, Thyer B, Tsokas N, Taylor JD. Chronic urinary retention postpartum 1990 ANZJOG; 30: 364-366. (Level IV)

9. Kulkarni R, Bradford WP, Forster SJ, James ED. Chronic retention of urine following childbirth – A rare complication in the puerperium ANZJOG 1994; 34: 107-108. (Level IV)

10. Lim JL. Post-partum voiding dysfunction and urinary retention. ANZJOG 2010; 50: 502-05 (Level IV)

11. International Continence Society. http://www.icsoffice.org/ International Consultation, 2002. Committee 4 Pathophysiology pp. 217 –222

12. Schussler B, Laycock J, Norton P, Stanton S. Pelvic floor re-education. Principles and practice. London: Springer-Verlag 1994.

13. Dolman M. Midwive's recording of urinary output. Nurs Standard 1992; 6: 25-27. (Level IV)

14. Ramsay IN, Torbet TE. Incidence of abnormal voiding patterns in the immediate postpartum period. Neurol Urodynamics 1993; 12:179-183. (Level IV)

15. Weissman A, Grisaru D, Shenhav M et al. Postpartum surveillance of urinary retention by ultrasonography: the effect of epidural analgesia. Ultrasound in Obstet Gynaecol 1995; 6:130-134. (Level IV)

16. Birch L, Doyle PM, Ellis R, Hogard E. Failure to void in labour: postnatal urinary and anal incontinence. British J Midwifery 2009: 17:562-566 (Level III-2)

17. Kearney R, Cutner A. Postpartum voiding dysfunction. The Obstetrician & Gynaecologist 2008; 10: 71-74 (Level IV).

18 Lim, Jeanette. Post partum voding dysfunction and urinary retention. ANJOG 2010;50: 502-505

19. Mehta S and Anger J. Evaluation and mangment of postpartum urinary retention. Curr Bladder Dysfunct Rep 2012; 7: 260-263

20 Mulder F, Hakvoort R, Schoffelmeer M et al . Postpartum urinary retention: a systematic review of adverse effects and mangment. Int Urogynecol J 2014:25:1605-1612

Appendix: Example of postpartum voiding assessment record

Hospital **POSTPARTUM VOID REVIEW**	**Affix patient label** UR: ..... Surname: ..... Given Name: ..... Second Given Name(s): ..... DOB: .....Gender: .....

Date of birth: Time of birth:

Type birth: ☐ Normal Vaginal Birth ☐ Assisted Vaginal Birth ☐ Emergency LSCS ☐ Elective LSCS

Urinary Catheter in labour or post-birth: ☐ N/A ☐ IN/OUT ☐ IDC Time removed:

Last void or in/out catheter intrapartum (if no IDC) Date: Time: Volume: mL

Fluid balance chart commenced: ☐ Yes ☐ No

Normal void parameters

- Normal sensation to void, no hesitancy starting void, normal flow, no dysuria, no urgency or frequency and sensation of complete empty with all voids.
- Fundus firm and central below umbilicus.
- Void volume ≥ 200mL and ≤ 600mL

First void (assess at 2 to 4 hours, maximum 6 hrs)	**Second void (assess at 2 to 4 hours, maximum 6 hrs)**
Date: Time: Void Volume:	Date: Time: Void Volume:
Normal void parameters: ☐ Yes ☐ No (Needs in/out catheter. Refer to PPG)	Normal void parameters: ☐ Yes ☐ No (Needs in/out catheter. Refer to PPG)

- **Abnormal void parameters.** Review by team leader or Medical Officer
- **High post-void residual or unable to void.** Insert IDC for 24-48 hours

Action:

Postpartum void review complete: ☐ Yes ☐ No

Reviewed team leader / Medical team: ☐ Yes ☐ No ☐ N/A

IDC inserted: ☐ Yes ☐ No ☐ N/A Date: / / Time: hrs

Trial of void – assess voids 2 hourly, max. 4 hours
(Assess all post-void residuals with in/out catheter or real-time bladder scanner)

IDC removed	First void	Second void	Third void
Date: / / Time:	Date: / / Time: mL	Date: / / Time: mL	Date: / / Time: mL
Residual Volume	mL ☐ In/out cath ☐ Bladder US	mL ☐ In/out cath ☐ Bladder US	mL ☐ In/out cath ☐ Bladder US
Normal Void Parameters	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
Reassuring	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No

- **Abnormal void parameters.** Review by team leader or Medical Officer

Action:

Trial of void review complete: ☐ Yes ☐ No

Reviewed team leader / Medical team: ☐ Yes ☐ No ☐ N/A

IDC reinserted: ☐ Yes ☐ No ☐ N/A

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